

CLAIMS

What is claimed is:

1 1. A composite reactor wall for a fluidized-flow gasifier, said reactor wall
2 comprising the following elements (a - f), arranged sequentially from an outside of
3 said reactor wall to an inside of said reactor wall:

4 a) a pressure shell (2), having an outer surface and an inner surface, and forming
5 an enclosed gasification chamber;

6 b) a ring-shaped gap (3), adjacent to at least a portion of said inner surface of
7 said pressure shell, through which gap a cooling medium is circulated;

8 c) a cooling wall (4), forming an inner wall of said ring shaped gap (3);

9 d) a thermally conductive ramming mass (5), adjacent to said cooling wall (4);

10 e) a solid layer of slag (6), adjacent to said thermally conductive ramming mass
11 (5); and

12 f) a liquid film of slag (7), adjacent to said solid layer of slag (7), and in contact
13 with reaction material in said gasification chamber of said gasifier.

1 2. The reactor wall according to claim 1, further comprising fixation means (8)
2 attached to said cooling wall (4) to provide separate means for holding said ramming
3 mass (5) in place.

1 3. The reactor wall according to claim 2, wherein said fixation means (8) is
2 selected from the group consisting of pins and anchors.

1 4. The reactor wall according to claim 1, further comprising cooling medium-

2 carrying half-tubes (9), which are attached to said pressure shell (2) to form said
3 cooling wall (4).

1 5. The reactor wall according to claim 4, further comprising fixation means (8) for
2 attaching said thermally conductive ramming mass (5) to said cooling medium-carrying
3 half-tubes (9).

1 6. The reactor wall according to claim 5, wherein said fixation means (8) is
2 selected from the group consisting of pins and anchors.

1 7. The reactor wall according to claim 4, wherein said cooling medium-carrying
2 half tubes (9) have a cross-sectional shape selected from the group consisting of semi-
3 circular and elliptical.

1 8. The reactor wall according to claim 4, wherein said cooling medium is water.

1 9. The reactor wall according to claim 1, wherein said ramming mass is silicon
2 carbide.